



Certificate no.:
TAP00002S8

TYPE APPROVAL CERTIFICATE

This is to certify:

that the Check Valve

with type designation(s)
DH41/DH61

issued to

Sichuan Chengdu Air-Separation Plant Valve Co., Ltd.
Chengdu, China

is found to comply with

DNV class programme DNV-CP-0186 – Type approval – Valves
DNV rules for classification – Ships Pt.4 Ch.6 Piping systems
DNV rules for classification – Ships Pt.5 Ch.7 Liquefied gas tankers
DNV-OS-D101 – Marine and machinery systems and equipment, Edition July 2021

Application:

Product(s) approved by this certificate is/are accepted for installation on vessels classed by DNV.

Temperature range: -196°C to 120°C
Max. working press.: CL150 and CL300
Sizes: NPS 3/8" to NPS 8"

Issued at **Høvik** on **2025-01-16**

This Certificate is valid until **2030-01-15**.

for **DNV**

DNV local unit: **Wuhan NB & CMC**

Approval Engineer: **Per Ola Nymo**

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid.
The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV AS, its parent companies and their subsidiaries as well as their officers, directors and employees ("DNV") arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to USD 300 000.

Product description

Lift check valves for cryogenic service with flanges (type DH41) and welding ends (type DH61).

Design code: ASME B16.34
Butt weld ends according to: ASME B16.25
Flanged ends according to: ASME B16.5
Valve Inspection and Testing: ISO 28921-1

Materials:

Component	Material spec.
Body	ASTM A351/A351M CF8, CF8M, CF3, CF3M
Bonnet	ASTM A351/A351M CF8, CF8M, CF3, CF3M ASTM A182/182M F304, F304L, F316, F316L
Disc	ASTM A351/A351M CF8, CF8M, CF3, CF3M, ASTM A182/A182M F304, F304L, F316L, F316
Bolting	ASTM A193/193M B8-CL2, B8M-CL2, A2-70
Sealing/seat ring	RPTFE (for General machinery service and Cryogenic service) PCTFE (for General machinery service)
Seals, Gasket	316, 316L, 304, 304L stainless steel spiral wound gasket

Application/Limitation

Valves covered by this certificate may be used under the following design conditions:

Parameter	Values	
Pressure class	Class 150 and Class 300	
Service	General machinery service or LNG/LPG applications - Cryogenic Service	
Temperature range	-196 °C to +120 °C	
Pressure-Temperature	Acc. to ASME B16.34. For temperatures below minimum temperature in ASME B16.34, pressure rating according to lowest temperature in ASME B16.34 also applies.	
Type	DH41 (flanged ends)	DH61 (welded ends)
Size (NPS)	1/2", 3/4", 1", 1 1/4", 1 1/2", 2", 2 1/2", 3", 4", 5", 6", 8"	3/8", 1/2", 3/4", 1", 1 1/4", 1 1/2", 2", 2 1/2", 3", 4", 5", 6", 8"

Valves covered by this certificate may be used in LNG/LPG applications - Cryogenic Service.

Materials and material protection chosen for the specific system shall be suitable for the intended medium and environmental conditions. Valves of austenitic stainless steel shall not be used in direct contact with seawater. Reference is made to DNV Rules for Ships Pt.4 Ch.6 Sec.2

The valves covered by this certificate are not to be considered fire safe and therefore shall not be installed wherever fire safe application is required.

Type Approval documentation

Tests carried out

Cryogenic prototype tests witnessed by DNV, 2024-05-11.
Flow tests of valves according to GB/T 30832-2014.

Production Testing and Certification

Production Testing and Certification for the actual intended application shall follow the latest applicable edition of the Rules (as mentioned on the front page of this certificate).

Marking of product

Minimum marking requirements shall be as outlined in the valve design standard in addition to minimum design temperature towards cryogenic applications.

Periodical assessment

This certificate is only valid if required periodical assessments are carried out with satisfactory results.

For retention of the Type Approval, a DNV Surveyor shall perform periodical assessment after two years (+/- 90 days) and after 3.5 years (+/- 90 days) to verify that the conditions for the approval are complied with. Reference is made to



Job ID: **262.1-039422-1**
Certificate no.: **TAP00002S8**

DNV-CP-0338.

To check the validity of this certificate, please look it up in <https://approvalfinder.dnv.com>.